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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,428	11/13/2003	Sho Sato	135848-2	1779

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CANTOR COLBURN, LLP  
55 GRIFFIN ROAD SOUTH  
BLOOMFIELD, CT 06002

EXAMINER
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EGWIM, KELECHI CHIDI

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/714,428

Applicant(s)

SATO ET AL.

Examiner

Dr. Kelechi C. Egwim

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>031504 &amp; 042904</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution.

Claims must be numbered consecutively.

Misnumbered claims 19-25 have been renumbered 20-26.

2. Claim 25 is objected to because of the following informalities: The phrase "wherein the hydrogenated styrene- butadiene copolymer has a styrene content greater than or equal to about 50% by weight, based on the total weight of the hydrogenated styrene-butadiene block copolymer" is a repeat of a limitation already in the claim.

Appropriate correction is required.

3. Applicant is advised that should claim 11 be found allowable, claim 25 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9 and 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 9 recites the limitation "wherein the syndiotactic polystyrene is present in an amount of 0 to about 35 parts by weight, based on the combined weight of poly(arylene ether), syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene and non-halogen fire retardant" in claim 1, indicating that the syndiotactic polystyrene is optional. There is insufficient antecedent basis for this limitation in claim 1 since claim 1 appears to require the presence of syndiotactic polystyrene.

7. Claim 13, from which claim 14 and 15 depend, recites the limitation "the hydrogenated styrene-butadiene block copolymer" in claim 1. There is insufficient antecedent basis for the **block** copolymer in claim 1.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claims 1-9, 16-19 and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamasaki et al. (US 5,109,068) and claims 1-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Kakegawa et al. (JP 07053876).

Each of Yamasaki et al. (col. 2, lines 29-34, col. 2, line 60 to col. 4, line 65, col. 5, lines 51-61 and col. 7, lines 14-28) and Kakegawa et al. (See abstracts) individually teach resin compositions comprising poly(arylene ether) resin, syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene copolymer, and a phosphate ester fire retardant.

Thus, the requirements for rejection under 35 U.S.C. 102(b) are met.

10. Claims 1-9, 16-19 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (USPN 4,584,334).

In addition to the generic teaching, in Example 1, Lee et al. teaches a composition comprising 55 parts of poly(2,6-dimethyl-1,4-phenylene ether) resin, 45 parts of rubber modified high impact polystyrene/polybutadiene rubber with about 9% polybutadiene content, 1.5 parts of linear low density polyethylene and 3.5 parts of isopropylated triphenyl phosphate liquid flame retardant agent.

As the, in view of claim 9, as the syndiotactic styrene is optional, the requirements for rejection under 35 U.S.C. 102(b) are met.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (USPN 5,777,028), Sugioka et al. (USPN 6,348,540), Kugure et al. (EP1045003) or Kinoshita et al. (JP 07331057), each independently in combination with Matsumura et al. (EP 509506).

Each of Okada et al. (col. 2, lines 7-17 and col. 9, lines 55-61), Sugioka et al. (col. 3, lines 15-21 and col. 8, lines 1-5), Kugure et al. (¶¶ 14, 20, 22, -25 and 29) or Kinoshita et al. (See abstract) individually teach resin compositions comprising poly(arylene ether) resin, syndiotactic polystyrene, olefin elastomer, hydrogenated styrene-butadiene copolymer and a fire retardant.

Okada et al., Sugioka et al., Kugure et al. or Kinoshita et al. differ from the claimed invention in that they do not specify aromatic phosphates as their flame retardants. However, it is known in the art to use aromatic phosphates as the flame retardant in thermoplastic compositions, for the purpose of avoided the deficiencies of halogenated flame retardants, such as corrosion of equipment, discoloration of the resin, and hazards to human beings, such as taught by Matsumura et al. (see page 1, lines 12-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to use aromatic phosphates as the flame retardant in thermoplastic compositions of Okada et al., Sugioka et al., Kugure et al. or Kinoshita et al., in order to obtain the advantages taught by Matsumura et al., motivated by a reasonable expectation of success.

13. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al. in combination with Matsumura et al.

Yamasaki et al., above, differ from the claimed invention in that they do not specify aromatic polyphosphates as their flame retardants. However, it is known in the art to use aromatic polyphosphates as the flame retardant in thermoplastic compositions, for the purpose of avoided the deficiencies of halogenated flame retardants, such as corrosion of equipment, discoloration of the resin, and hazards to human beings, such as taught by Matsumura et al. (see page 1, lines 12-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to use aromatic polyphosphates as the flame retardant in thermoplastic compositions of Yamasaki et al., in order to obtain the advantages taught by Matsumura et al., motivated by a reasonable expectation of success.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kelechi C. Egwim whose telephone number is (571) 272-1099. The examiner can normally be reached on M-T (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCE

**KELECHI C. EGWIM PH.D.**  
**PRIMARY EXAMINER**

